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## New and interesting Plants from western North America.—VII

By A. A. HELLER

### ***Veratrum caudatum***

Stems tall, 2–2.5 meters high, leafy, clothed with short woolly hairs : leaves glabrous, except the margins, which are slightly ciliate, those on the lower third of the stem elliptical or elliptical-lanceolate, 3–4 dm. long, 1.5–2 dm. wide ; those on the middle and upper portion of the stem lanceolate, gradually decreasing in size : inflorescence 4 dm. or more in length, branched below, the main rachis prolonged into a tail-like extension 2 dm. or more in length : floral bracts lanceolate, acuminate, about half the length of the perianth : perianth short-pedicelled, 1.5 cm. long, white, the green base pubescent, the divisions lanceolate or linear-lanceolate, only 2–3 mm. wide, slightly toothed, especially near the slender apex.

Our no. 4013, collected in wet meadows at Montesano, Chelalis county, Washington, July 6, 1898, at an elevation of about 50 feet. The type specimen is in my private herbarium.

This species is remarkable for the caudate upper portion of the inflorescence, no other species known to me approaching it in this respect. The divisions of the perianth are also unusually narrow. The plants are gregarious in habit, a dozen or two of them usually growing in proximity.

### ***Verbena MacDougalii***

Perennial, gray pubescent throughout : stems stout, simple, obtusely four-angled, the angles light colored, leafy throughout, 4 dm. high : leaves oblong-lanceolate, on short stout petioles, thickish, prominently veined, velvety to the touch, the margins scabrous, irregularly incised-serrate, 7–9 cm. long : spikes solitary or sometimes several, on pedicels 3 cm. long, dense while in flower, rather stout, the flowering portion 6 cm. long, but probably elongating in fruit : fruits scattered on the older lower portion of the spike : bracts slender, lanceolate, acuminate prolonged, 5 mm. long, one third longer than the calyx : flowers small, lilac-purple.

Dr. D. T. MacDougal's no. 249, collected July 8, 1898, "in moist soil in valley near Flagstaff, Arizona." The type specimen

is deposited in the herbarium of the New York Botanical Garden.

The southwestern representative of *V. stricta*. It is less pubescent than that species, has a narrower leaf, the flowering spike is less compact in age, the flower is smaller and lighter colored, and the bracts are much longer. It also occurs near Santa Fé, New Mexico, growing in meadows along Santa Fé creek.

STACHYS PUBENS (A. Gray) Heller, Bull. Torr. Bot. Club, 25 : 582. 1898

*Stachys ciliata* var. *pubens* A. Gray Syn. Fl. N. A. 2<sup>1</sup> : 388. 1878.

*Stachys palustris* Linn. var. Torr., U. S. Explor. Exped. 17 : 408.

This is a species quite distinct from *S. ciliata*, and apparently not well understood. The type was collected by Dr. Holmes on the Fraser river. Like most specimens from the older collectors, it is imperfect, showing only the upper half or third of what was evidently a tall, stout plant. The prominent angles are covered with retrorse, prickly-like hairs, the leaves are thick, densely pubescent with soft-pilose hairs, and have short stout petioles. The calyx is very hirsute, its lobes ending in a long spine-like tip. The flowers are more slender, and a trifle smaller than those of *S. ciliata*.

In the herbarium of Columbia University is a second sheet, also referred by Torrey to "*Stachys palustris* Linn. var." The label bears the legend "Gray's Harbor & S. to California." On the sheet are two plants, one of which is undoubtedly *S. ciliata*, and I take it to be the plant collected at "Gray's Harbor," for *S. ciliata* is abundant thereabouts. The other one probably goes with the "& S. to California." It is close to *S. pubens*, and may be the plant Gray had in mind when he mentioned *S. Rideri* in connection with his *S. ciliata* var. *pubens*.

STACHYS CILIATA Dougl.; Benth. Lab. Gen. et Sp. 539. 1834

Our no. 3960, collected at Montesano, Chehalis county, Washington, June 27, 1898, should be referred to this species, and not to *S. pubens*, under which name it was distributed. These specimens seem to be pretty typical, although a little more pubescent than typical material in the herbarium of Columbia University. This

Columbia specimen was presumably collected by Douglas, as it was received from Hooker, and is labelled "*Stachys ciliata*—Fl. Bor. Am." The Scouler specimen, no. 196, represented in the Columbia herbarium, is unlike any other specimen that I have seen, but it was taken from a deformed plant, which may account for the smaller and smoother calyx. Scouler's specimens are also cited as part of the type.

*STACHYS EMERSONI* Piper, *Erythea*, 6: 31. 1898

Our 3902, collected at Montesano, Chehalis county, Washington, during June, 1898, and distributed as *S. ciliata*, is the recently described *S. Emersoni*. When the determination was made I had not seen any specimens of Piper's species, and was misled by the imperfect specimen of Scouler, mentioned above. *S. Emersoni* is apparently common in that part of Washington adjacent to Gray's Harbor, growing equally well in rich, shaded ground along streams, and in higher and drier places. A favorite place of growth about Montesano, was along fences and even in gardens and yards.

### *Stachys Cooleyae*

Height of plant unknown, but probably several decimeters: stem sparingly retrorsely barbed below the inflorescence, the part occupied by the inflorescence puberulent or glandular-hairy: leaves distant, ovate-lanceolate, or the uppermost lanceolate, thin, light green, crenate-serrate, shortly acuminate, clothed on both sides with short appressed hairs which are not especially noticeable to the naked eye, those below the inflorescence 12–15 cm. long, 4–6 cm. wide, with rounded or cordate base, and slender, scarcely margined petioles 1–2 cm. long; floral leaves lanceolate, merely serrate, sessile, much reduced, but never shorter than the calyx: verticils remote, showing but slight tendency to approximation at the summit, normally six-flowered: calyx purplish, about 1 cm. long, moderately pubescent with spreading white hairs, the spreading lobes slightly over 2 mm. in length, lanceolate, tipped with a slender cusp: corolla pubescent, rose-purple, 2.5 cm. long, its tube twice the length of the calyx, lower lip broad and rounded, not longer than the upper one.

The type, preserved in the herbarium of Columbia University, was collected by Grace E. Cooley, at Nanimio, Vancouver Island, British Columbia, July 18, 1891. It was distributed as *Stachys ciliata* var. *pubens*, but differs from *S. pubens* by being less pubes-

cent, has much thinner, larger leaves, on longer and more slender petioles; the inflorescence is less compact, the calyx is broader with broader and shorter spreading lobes, and the flower has a much broader tube and equal lips. It is closer to *S. ciliata*, but is distinguished by the thin, light green foliage, spreading calyx, and shorter, equally lobed corolla.

#### **Pentstemon Arizonicus**

Slender, erect, 1.5–2 dm. high, with several usually prostrate, short branches at base, these leaf-bearing only: leaves opposite, coriaceous, glabrous, dull green, those of the short prostrate branches oval, obtuse, finely crenate or merely undulate, 1–3 cm. long, 5 mm. to 1 cm. wide, tapering into a winged petiole; leaves of the erect stem in about five pairs, the lowest oblanceolate, petioled, finely crenate, about 2 cm. long, 5–7 mm. wide; those on the middle portion of the stem ovate-lanceolate, sessile at the broad base, thence gradually narrowing to the acute apex, a little over 3 cm. long, nearly 1 cm. wide at the base, entire, as are the upper shorter ones, which are lanceolate, acuminate: inflorescence appearing as if secund, lax, scattered over the upper half of the stem: peduncles and pedicels very slender, the former 1 cm. or more in length, nearly smooth, the latter about 5 mm. long, pubescent with slightly kinky hairs: calyx almost 1 cm. long, as long as the corolla-tube, pubescent and somewhat glandular, the lobes lanceolate, long-acuminate, slightly scarious near the base, ciliate: corolla apparently purplish, nearly 3 cm. long, minutely puberulent, abruptly dilated above the calyx: sterile filament glabrous, not enlarged above; anther sacs divergent.

Collected by Dr. D. T. MacDougal in shaded places on the inner slopes of the crater of San Francisco Mountain, near Flagstaff, Arizona, August 8, 1898. The type specimen is deposited in the herbarium of the New York Botanical Garden.

#### **Erigeron MacDougalii**

Appressed pubescent, perennial by decumbent rooting stems or stolons: stems slender, weak, curved, seldom or never branching; leaves entire, the basal ones spatulate, obtuse, 2 cm. long, more than half of which length is petiole; stem leaves scattered, linear or the lower ones linear-spatulate, acute or acutish, about 5 mm. long, 1 mm. wide: peduncles scapose, or very rarely borne on a branch, pubescent above, 5 cm. long; heads 1.5 cm. broad, 5 mm. high; involucre hemispheric, its bracts narrow, pubescent, somewhat scarious-margined, tipped with a brown point: rays numerous, purplish: pappus double.

Dr. D. T. MacDougal's no. 390, collected on "dry inner slopes of crater of San Francisco mountain," near Flagstaff, Arizona. The type specimen is deposited in the herbarium of the New York Botanical Garden.

A species related to *E. flagellaris*, but differing in its weaker, more prostrate, simple, downcurved stems, scape-like peduncles, minute leaves, and more pubescent involucre. It is very unlike typical *E. flagellaris* in habit.

### Senecio MacDougalii

Perennial, stems rather slender, 4 dm. high, corymbosely branched from near the base, glabrous, leafy throughout: leaves 2-pinnatifid, 2-4 cm. long, the lower slightly petioled, the others sessile, the segments oblong, acute, 1 cm. long, 1-2 mm. wide, the lower ones lobed, the upper ones usually entire; rachis broad for the size of the leaf: heads numerous in corymbs, slender-peduncled, about 3 mm. broad and 7 mm. high: involucre 5 mm. high, the lobes linear-lanceolate, strongly costate, somewhat spreading, tipped with a brown ciliate point; rays bright yellow, about 2 mm. broad: achenes glabrous: pappus white.

Dr. D. T. MacDougal's no. 342, collected near Flagstaff, Arizona, July 25, 1898. The type specimen is deposited in the herbarium of the New York Botanical Garden.

This species is related to *S. eremophilus*, but is smaller in every way. One difference which strikes the eye at once is the smaller, narrower heads. The leaves are also shorter. It was found "growing in clumps in remains of decayed pine trunks." Professor E. O. Wootton has collected specimens of this species in southeastern New Mexico.

### THE GENUS PETALOSTEMON

In April, 1896, the writer published a paper in the BULLETIN entitled "Notes on *Kuhnistera*." In its inception, the idea was to keep separate under the generic name *Kuhnistera*, the Atlantic seaboard and Gulf coast plant long known as *Petalostemon corymbosus*, it being the type of *Kuhnistera*. Finally, though somewhat unwillingly, he was led to adopt the single genus theory, and included all of the species under *Kuhnistera*. Although there are several species of *Petalostemon* which have rather long calyx-lobes or broad floral bracts, they are so utterly unlike the peculiar plant

of the southeastern part of the United States, which at first sight is often mistaken for a composite, that the two genera should not be united. Having described several species as *Kuhnistera* I now desire to transfer them to *Petalostemon*, where they properly belong.

**Petalostemon Gattingeri**

*Kuhnistera Gattingeri* Heller, Bull. Torr. Bot. Club, **23** : 121. 1896.

**Petalostemon pulcherrimum**

*Kuhnistera pulcherrima* Heller, Cont. Herb. F. & M. Coll. **1** : 50, *pl.* 2. 1895.

**Petalostemon tenue** (Coult.)

*Petalostemon violaceus* var. *tenue* Coult. Cont. U. S. Nat. Herb. **1** : 34. 1890.

*Kuhnistera tenue* Heller, Bull. Torr. Bot. Club, **23** : 124. 1896.

**Petalostemon microphyllum** (T. & G.)

*Petalostemon phleoides* var. *microphyllum* T. & G. Fl. N. A. **1** : 310. 1838.

*Kuhnistera microphylla* Heller, Bull. Torr. Bot. Club, **23** : 122. 1896.

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